

**ABSTRACT OF THE DISCLOSURE**

A method for reducing or substantially eliminating oxides of nitrogen from an effluent gas stream, that includes providing a source of ultraviolet radiation with a precise wavelength, adding ammonia or an ammonia based reagent to the effluent stream, upstream of the ultraviolet radiation source, controllably operating the ultraviolet radiation source to irradiate the effluent stream flowing in the duct and substantially reducing or eliminating oxides of nitrogen by promotion a reaction of ammonia with the oxides of nitrogen to produce  $N_2$  and  $H_2O$ , and also thereby destroying any surplus ammonia. This process can also be modified to oxidize carbon monoxide and VOC's to  $CO_2$  and  $H_2O$ .